

2. Recommended Practice for Rail Transit Grade Crossing Public Education and Rail Trespass Prevention

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Abstract: This recommended practice provides guidelines for developing rail transit grade crossing public safety and trespass prevention education programs.

Keywords: public education, rail grade crossing education, rail trespass prevention, safety

Introduction

(This introduction is not a part of APTA-RT-RGC-RP-002-02, *Recommended Practice for Rail Transit Grade Crossing Public Education and Rail Trespass Prevention*)

APTA rail transit safety standards and recommended practices represent an industry consensus on practices for rail transit systems to help achieve a high level of safety for passengers, employees, and the general public. This document was created by and for those parties concerned with its provisions; namely, rail transit systems (operating agencies), manufacturers, consultants, engineers, and general interest groups. This recommended practice provides guidelines for inspecting and testing rail transit wayside ac power systems.

APTA recommends this practice for:

- Individuals or organizations that inspect, maintain, and/or operate rail transit systems
- Individuals or organizations that contract with others for the inspection, maintenance, and/or operation of rail transit systems
- Individuals or organizations that influence how rail transit systems are inspected, maintained, and/or operated (including but not limited to consultants, designers, and contractors)

The application of any practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of how a rail transit system operates. In such cases, the government regulations override any conflicting practices this document recommends.

According to statistics compiled by the Federal Transit Administration, from 1995 through 1999 between 60 and 105 vehicle/pedestrian/train incidents occurred annually at highway rail grade crossings and on the rights-of-way of heavy and light rail transit systems. The average annual number of fatalities and injuries for the same period was 7 fatalities and 101 injuries. Obviously the risk of a fatality or injury to employees, pedestrians, patrons and highway vehicle operators and passengers is significant and rail transit systems have the responsibility to address this issue.

There is a rich history of experience that rail transit systems can draw upon to address this concern. Most if not all commuter rail systems participate in Operation Lifesaver, which is a public education and awareness campaign that originated in 1972 on the Union Pacific Railroad. The 30-year history of this program has contributed to an extraordinary reduction in fatalities and injuries at highway rail grade crossings and it is suggested in this recommended practice that this program be used as a model for light and heavy rail highway rail grade crossing public education programs.

Rail transit systems should take advantage of this existing experience, knowledge and history to the maximum extent possible. They should contact other light and heavy rail systems, commuter rail systems, freight railroads, Operation Lifesaver, Inc, (OLI) and OL state coordinators. Further, rail transit systems employ a system safety program plan and tri-annual safety audits that when integrated with a grade crossing public education program would result in additional safety benefits and a greater likelihood of reduced overall risk to the transit system and the public.

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Recommended Practice for Rail Transit Grade Crossings Public Education and Rail Trespass Prevention

1. Overview

For maximum impact and effectiveness, individual rail transit systems are encouraged, to the fullest extent possible, to deliver similar safety messages nationwide, although some adjustments for local circumstances may be unavoidable.

1.1 Scope

This document establishes recommended guidelines for establishing or enhancing rail transit grade crossing public safety outreach and education programs that can be applied to encourage the safe behavior of passengers, pedestrians, trespassers, and motorists who come in contact with rail transit systems at grade crossings.

1.2 Purpose

The purpose of this recommended practice is to provide guidance to help rail transit systems reduce the number of grade crossing collisions, deaths, and injuries involving the public on rail transit systems by ensuring that passengers, pedestrians, and motorists understand the inherent dangers involved in rail transit operations and their own critical role in making safe decisions around tracks and trains.

2. Definitions and acronyms

2.1 Definitions

2.1.1 rail transit system (RTS): The organization or portion of an organization that operates rail transit service and related activities. *Syn:* operating agency, operating authority, transit agency, transit authority, transit system.

2.2 Acronyms

FTA	Federal Transit Administration
OL	Operation Lifesaver ¹
OLI	Operation Lifesaver, Inc. ²
PSA	public service announcement
RTS	rail transit system

3. Public education

3.1 Public education programs

Each rail transit system should address highway rail grade crossing and rail passenger/pedestrian/trespass issues related to their transit operations. Consideration should be given to promoting partnerships with local municipalities, transit and local police, and trucking and bus companies that operate along the transit right-of-way when addressing public education programs.

To accomplish a rail transit system highway rail grade crossing public education program, an organizational analysis should be conducted to examine the short and long-term public outreach and education goals of the organization, as well as the trends that are likely to affect these goals.

Often, this analysis requires that upper level management examine their expectations concerning the program. The following core elements of a grade crossing public education program should be considered:

- a) An ongoing, permanent public safety education program. (Many existing programs are under the cognizance of the RTS safety office, in close cooperation with the public affairs office);
- b) “New Start” education programs that commence at least sixty (60) days prior to the start of any new service or a “new startup” to encourage the safe behavior of passengers, pedestrians and motorists on and around rail transit operations. If the education audience is large and resources are limited, it may be advisable to begin outreach efforts up to a year prior to the “new start”;
- c) Periodic evaluation to ensure that the intended audience is meeting behavioral objectives;
- d) Information about the meaning of warning signs and traffic signals related to rail transit operations; the applicability of general traffic and trespass laws; and the consequences of unsafe choices around the rails, including trespassing on rights-of-way.

¹ Operation Lifesaver (OL) is a nationwide, nonprofit public awareness program dedicated to ending collisions, fatalities and injuries at highway rail grade crossings and on railroad property.

² Operation Lifesaver, Inc. (OLI) is the headquarters office for OL in the United States, located at 1420 King Street, Suite 401, Alexandria, VA, 22314; Phone: 800-537-6224.

To set priorities and use resources effectively, each rail transit system should take responsibility for identifying its own high-risk locations, corridors and groups (by age, gender and other demographic information). It is possible that the target locations and groups for public safety outreach and education may vary for passengers, pedestrians and motor vehicle operators. Factors for identifying target audiences in addition to locations where collisions, fatalities or injuries have occurred might include the following:

- *Passengers* – Determine the demographics of the train riders. Identify the heaviest use locations and times. Identify those locations representing the greatest risk. For example, do large groups of riders work or go to school at a single location on the transit system? Are there particular locations where passenger queuing is a problem?
- *Pedestrians/Trespassers* – Identify high-volume areas of the transit system. Possible sources are operating data and schedules, fare collection data and police reports. Train operators also can be used to identify areas where trespass activity is high (such as people creating shortcuts across the railroad right-of-way or through fenced corridors). Presentations stressing the hazards and legalities of trespassing. Solicit local police and train operators' assistance in determining where vehicle "tagging" or other equipment vandalism is taking place.
- *Motorists* – Determine the type of street and highway traffic and its origin (public and school buses, trucks, emergency vehicles, hazardous materials) crossing the rails. Identify if other organizations, such as your state's Operation Lifesaver program, are already delivering public safety education to these groups. Determine if your system can provide additional highway rail grade crossing public education information.

3.2 Public education plan

Each rail transit system should develop a program plan for its public outreach and education program or "new start" program. Such plans should be included in the RTS system safety program plan.

The RTS education plan should describe the responsibilities for developing or selecting training curricula, developing and managing educational materials, and the planning of activities for the next year, based on identified target locations and audiences. Rail transit systems should be prepared to update this plan quarterly.

Based on the activities planned, financial, educational material and personnel resource needs must also be planned and budgeted, so that all necessary resources are available on time to meet the demands of scheduled activities.

Annex A provides examples of current public education plans used by rail transit systems.

4. Public outreach

4.1 Target audience

The audience targeted for education should be determined by assessing the demographics of the pedestrian/trespasser and highway/street user population encountered by or near the transit operation. Typical target pedestrian subgroups would include transit system passengers, elementary, secondary and higher education students, local industry employees, shoppers, and tourists. Highway/street user targets would include operators of passenger vehicles, both light and heavy trucks (including hazardous material carriers), city and tourist buses, school buses and special purpose vehicles such as ambulances, fire equipment, public utilities vehicles, construction equipment, etc.

It is important to determine the origin of the pedestrian and highway/street traffic so that the education programs can be focused at the source of these individuals and vehicles (e.g. in schools, work places, bus terminals, truck depots) as well as provide educational material (billboards, signs) near or in route to the transit operation. It is also important to assess any unique language requirements of the educational messages if a significant number of target pedestrians and highway/street users' first language may not be English.

Annex B depicts some of the tools to accomplish this task.

4.2 Educational materials

Both Operation Lifesaver and various rail transit systems have developed a wide range of educational materials to accompany their public outreach programs. Existing OL and transit agencies' materials include print brochures and key audience inserts, videos, video modules (including instructor guide, student handbook and test), and public service announcements (PSAs) for television, radio, Internet and print media (billboards, magazines, newspapers, etc.).

With permission, Operation Lifesaver and various rail transit systems may allow you to adapt their educational materials to suit local circumstances. Examples of these educational materials are included and referenced in Annex B to this Recommended Practice. Additional examples of OLI materials also can be reviewed and ordered from authorized OL vendors, at www.oli.org under the "OL Store".

Educational materials acquisition should include research to identify which of the above materials can meet public education needs or can be modified and adapted, and/or which need to be developed. A careful assessment should be completed to ensure that educational materials obtained from other sources meet the actual public education needs of the RTS.

Focus-group tests have confirmed that educational programs benefit tremendously from inclusion of site-specific information. . For example, station names or transit system routes, vehicle photos, telephone numbers and contact names may be included, but should be checked frequently to ensure accuracy. For optimal impact, educational materials should be illustrated with site-specific pictures of equipment operating in local settings. Also, educational materials

may need to address unique site-specific safety concerns such as street running or multiple track operation. The educational materials and messages of all rail transit, freight rail, and heavy rail passenger operations and interested transportation safety groups nationwide should always contain a few identical, very basic safety messages every time such as “Look, Listen and Live” and “Stay Off! Stay Away! Stay Alive!”

Educational needs that cannot be met by existing materials must be addressed by developing new materials. The educational materials development process should commence with a review of the public education needs assessment, a selection of the presentation methodology to meet those needs such as hard copy materials, classroom presentations, video, self-paced instruction and computer-based training. The process should then continue to select and organize the topics that meet the objectives of the public education needs assessment. The next step is to develop the discussion points that support the topics. Appropriate media sources will also have to be identified. This effort should include considerable coordination with state, local and national organizations to assure that information being developed is consistent with other public safety education efforts.

For example, the FTA and Operation Lifesaver, with the assistance of two dozen transit agencies and railroads around the country, have developed and focus-group tested a template light rail safety program that addresses safety concerns common to all light rail systems, while remaining flexible enough to be tailored to individual agencies’ needs and operations. The program includes activities, artwork, cartoons and PSAs, fact sheets and FAQs to equip a presenter with a ready-made presentation, or if the presenter chooses, with a few activities or some graphics to solidify his or her own already-developed program. By offering a “turnkey” solution that allows agencies to adopt the program without change, or to pick and choose among its components, the program allows agencies to tailor or develop their own program without incurring the start-up costs of development, graphic design, research, and testing.

It is imperative that public safety outreach and education materials be kept both accurate (so that passengers, pedestrians and motorists receive the most useful information possible) and up-to-date, (so that material is as appropriate as possible for the intended audience). Regardless of the source of the educational materials, a collection of the most current version of materials should be kept in a central “library” for quick reference by anyone in your organization. A regular review of the educational content of materials should be scheduled.

4.3 Public education events

Public education must be consistent and continuous in order to be effective. The type of public outreach activity selected largely will depend on needs and is dependent on the financial and personnel resources available. Rail transit systems may want to consider using or adapting a range of approaches, based on the following educational programs successfully utilized by OL:

- a) *Formal education classes* – Course materials that are presented in a classroom situation. These materials must be tailored to meet the needs of the specific audience.

- b) *Computer-based training* – Materials that are self-paced or available on-line for schools and other educational needs.
- c) *In-house events* – Regularly sponsored in-house events that stress using the system safely. Information may be disseminated on billboards or signboard displays in rail cars and on platforms, in educational videos played in stations, and/or by handing out educational materials and other promotional items (e.g., pens, bookmarks, key chains, notepads, etc.) at stations.
- d) *State and local programs* –Working through the state programs that use volunteer OL Presenters from various sources (rail transit, police, education, etc.) that support each other’s public education efforts, especially when mutual needs can be met by a combined effort.
- e) *Coalition events* –Various groups with an interest in improving overall community safety share responsibility for long-term educational outreach. In addition to sharing the resource load with each other, rail transit systems, and other OL partners also benefit from the Presenter training of community leaders: teachers, health care workers, community leaders, law enforcement, etc. These new Presenters become a permanent rail safety resource for their community.
- f) *Special events* – Implementation of programs such as “Officer on a Train” events, where law enforcement personnel have an opportunity to ride in the cab and see problem areas from the operators’ perspective. Other special events include “Santa Trains” and “Easter Trains” during which passengers may receive safety Presentations and other information.
- g) *Celebrity spokespersons* – Solicitation of local celebrities to promote grade crossing safety and rail trespass prevention.

It is important that rail transit systems coordinate public education activities with other organizations that already may be planning educational activities addressing key groups (drivers education, professional drivers, school bus operators, law enforcement). Through coordinated planning and pooling of limited financial and personnel resources, unnecessary duplication of effort can be avoided and a larger audience can be reached to the benefit of both your community and your organization.

4.4 Presenter preparation

Developing a cadre of presenters and adequately preparing them to deliver the public safety outreach and education program is critical to that program’s success. A source of presenters may be found within the transit agencies own employees (which should be encouraged as an essential source of presenters), from other transportation providers and public sector organizations, as well as community volunteers who have an interest in public safety. At a minimum, individuals who deliver the outreach and education program need to understand the audience for whom the information is intended. Basic information should include rail safety generally and information about the local rail operation specifically in a format that is appropriate for each particular audience, in order to effectively present and to answer audience questions.

Adequately preparing presenters with structured and thorough training is important to that program's success. OLI has an established national training and certification program for volunteer Presenters, which is accessible and available through the OL coordinator in each state. Rail transit systems are welcome to take advantage of the training opportunities OLI offers that includes a one-day training course as well as a train the trainer course. Whether this training avenue or another is pursued it is important to ensure that volunteers are uniformly and fully prepared to deliver accurate safety information to the public and answer questions.

4.5 Evaluation and follow-up

In order to evaluate and improve the impact of public safety outreach and education programs, rail transit systems should keep a complete record of their outreach efforts. The evaluation process should center around two procedures: 1) establishing measures of success; and 2) using testing or observation to verify the transfer of knowledge. The evaluation should consider the effectiveness of both education efforts and educational materials in meeting learning objectives.

Annex A

(Informative)

Bibliography

- [B1] <http://www.apta.com>, American Public Transportation Association. Provides information on public transportation issues.
- [B2] <http://www.oli.org>, Offers information on Operation Lifesaver, its mission, state programs, structure, volunteer opportunities, partners, safety brochures, approved vendors of safety materials, etc.
- [B3] <http://www.fta.dot.gov>, Federal Transit Administration. Provides information on current Grade Crossing technology demonstration projects as well as information on a variety of grade crossing issues. This site also provides access to the FTA Safety management Information Statistics Annual Reports that contain information of collisions; deaths and injuries related to light and heavy rail operations.
- [B4] <http://www.fra.dot.gov>, Federal Railway Administration. Provides information on collisions, deaths and injuries related to freight rail and heavy rail passenger operations.
- [B5] <http://www.fhwa.dot.gov>, Federal Highway Administration. Publishes the Manual of Uniform Traffic Control Devices. Sections 8 and 10 provide guidelines and standards for signs and signal equipment used at highway rail grade crossings.
- [B6] <http://www.oli-lightrail.org>., Developed jointly by the Federal Transit Administration and Operation Lifesaver, this light rail safety program is available to any transit agency that signs a licensing agreement and is fully customizable to meet the agency's needs. Materials can be obtained online or directly from Operation Lifesaver, free of charge.

Annex B

(Informative)

Program plans

B.1 List of plans

- FTA/Operation Lifesaver Light Rail Safety Program
- Los Angeles Metropolitan Transportation Authority
- The Greater Cleveland Regional Transit Authority
- Massachusetts Bay Transportation Authority
- Federal Transit Administration
- NJ Transit
- Southeastern Pennsylvania Transportation Authority